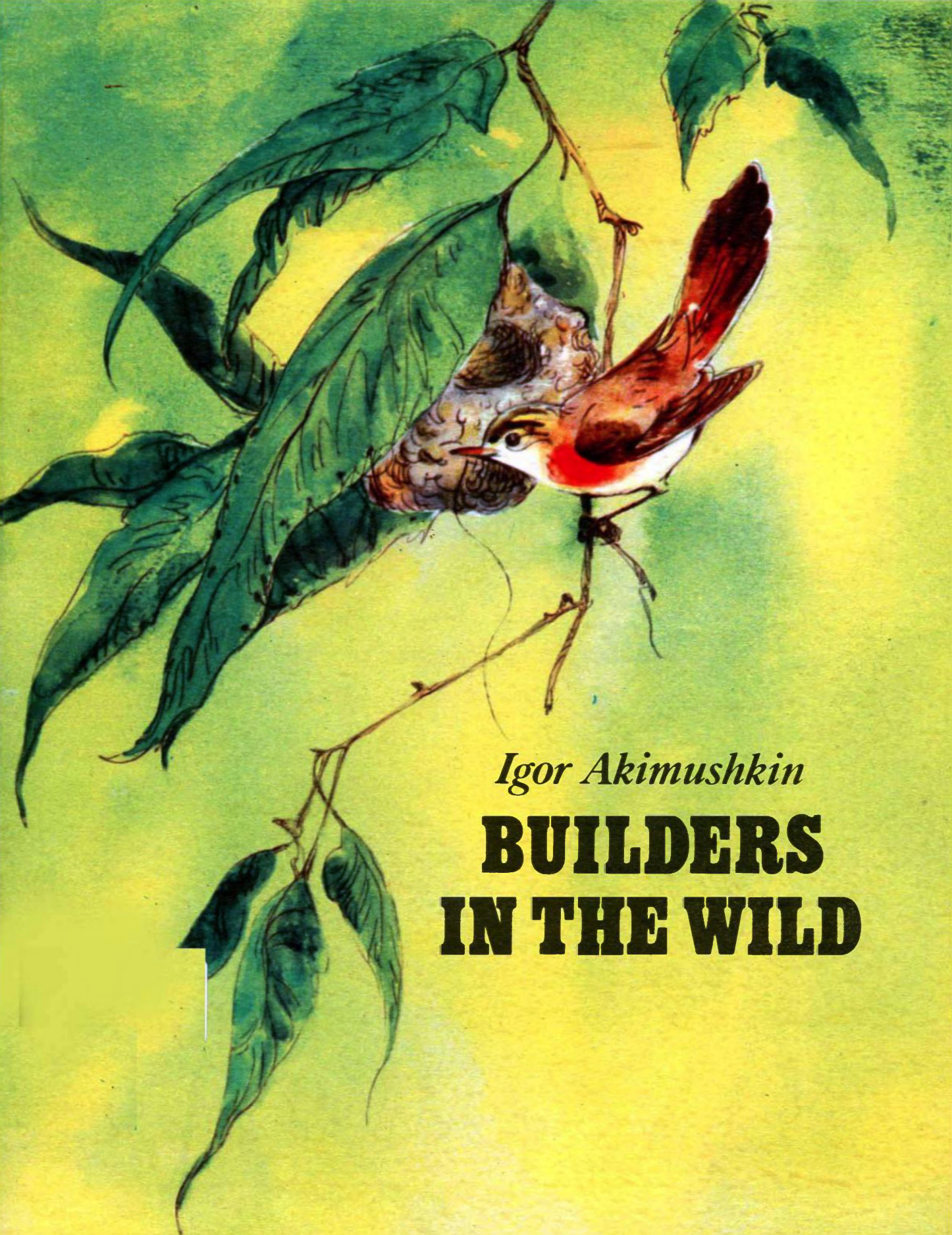

Igor Akimushkin

BUILDERS IN THE WILD

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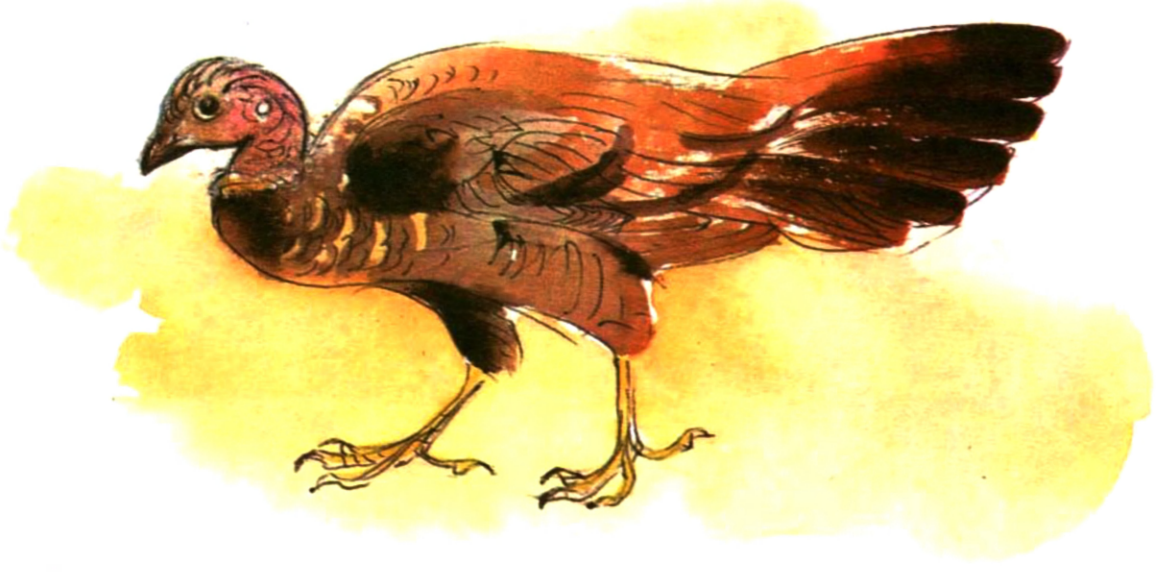
Drawings by A. Keleinikov

Translated by
ELEANOR YANKOWSKAYA

Malysh Publishers

Do you know what clever builders there are among animals and birds? Their structures are surprisingly neat and sometimes very large and complicated. It is hard to believe that the "architects" and "workers" were not people but animals and birds, whose only tools are beaks, paws, teeth and claws.

Let me tell you about some of these craftsmen.



THE BIRD THAT SEWS

This amazing bird lives in India. When it comes time to have her young, she sews together the edges of two leaves with a "needle" and "thread." The needle is her slim beak, and the thread is plant down.

The tiny seamstress pokes a hole in a leaf with her beak and pushes through it this down, which she has rolled into thread. Then she pierces a second leaf and pushes the thread through that. Sometimes she takes about ten such stitches, sewing the two leaves together firmly to make a kind of cradle. Inside this green cradle she weaves a soft nest of down and hairs.

The seamstress bird lives in orchards and fields close to populated places. At times she settles on the verandahs of homes and uses the leaves of house plants to sew her nest.

THE BIRD THAT LAYS BRICKS

This is a fairly common bird of the fields and plains of South America.

It sings simple, melodious songs, and often a male and female sing together. Their bell-like trilling can be heard all year long, and all year long, but for a few weeks when they shed their feathers, they build their remarkable nests.

The birds make these nests of damp ground and clay, adding a few plant stalks and some cow dung. They don't just mix all this together. They form tiny bricks of three to five grams each. They use these to lay the foundation of their homes and to put up rounded walls and on them a roof, and all this on fence posts, on the branches of trees, on house roofs, and at times on the ground.

A nest of this kind weighs from four to seven kilograms and requires from fifteen hundred to twenty-five hundred bricks. It takes ten to sixteen days to build. Each pair of birds makes as many as four nests at a time. These are hardworking birds.

TENT MAKERS

The first European settlers in Australia found in low bushes some curious structures decorated with flowers.

Here and there over small areas covered with twigs, sticks had been driven about half a meter into the ground and stood close together forming a fence but with their tops bent to meet each other, which produced a kind of gable roof over the twigs.

In front of one of the entrances to such a tent a great variety of colored objects were scattered on the ground. There were seashells, dead cicadas, flowers, berries, mushrooms, pebbles, bones, bird feathers, and pieces of snake's skin. Some time ago one collection of this kind was found to contain a toothbrush, knives and forks, toys, ribbons, coffee cups and even a coffee pot, buckles and other bright objects.

In time it was discovered that birds build these tents. The birds are now known as tent makers. The tents are not nests. The birds build them to play a game. When the male bird has decorated his tent to suit his taste, he goes to the woods to find a female bird.

The female bird enters the tent or stops just outside indifferently. Then the male picks up a colored object from the pile in front of the tent, twirls it in his beak, throws it down and takes another, twirling each object and shaking his head faster and faster. At times he suddenly stops and with his beak holds out some gay piece of cloth, which usually matches the color of the feathers or eyes of the other bird. Then he goes on showing off his collection.

Day after day for many months, from June to November or December, this black bird plays with his colored toys, often forgetting about food or drink or enemies.

THE MOUND BIRD

When the first Europeans settled in Australia, they came across large mounds of leaves covered with earth. In time they learned that these were the nests of birds. Later the birds came to be called mound birds or bush turkeys.

The bush turkey lives in Southern Australia. In April, when the Australian autumn begins, the cock squabbles with his neighbors over a place suitable for a hothouse nest. Once he has captured a piece of land, he digs a ditch about one meter deep and two meters long. Into this he puts all the leaves and branches he can find. Building the nest takes about four months. The nest is a real incubator because the leaves in the ditch rot and produce heat, which warms the eggs. When the nest is ready, the cock lets his hen come onto it to lay her eggs. He covers these with sand.

The cock is on duty at the incubator for ten long months. He has plenty to do. When spring comes and the sun begins to warm the air, the cock works for hours making air holes in the mound to release the extra heat from the incubator. He measures the temperature with his beak. In the evening he must fill the holes made in the daytime because nights are still cold. He must eat too. So he runs off for a short time, scratches here and there, and gets a light lunch. But he does not go far.

Then comes the day when the chicks begin coming out of the mound one by one. Their father does not help them to clamber out of the mound of rotten leaves quickly. They push their way themselves through the meter-thick layer of earth, branches and leaves. Once out, they race for bushes and hide, breathing heavily because they are very tired. By evening the feathers on their wings have dried and they hop onto a tree to sleep. Each one lives by himself, knowing neither father, mother, brothers nor sisters.

THE BEAVER

Beavers are called the "engineers of the animal kingdom". Indeed, they build a variety of amazing structures.

One is dams. Working in teams, beavers gnaw away at trees growing on a river bank until the trees crash into the river. Then they drag up stones and mud. They fasten all this together, using branches, and prop it up with sticks. The result is a dam. The water behind it forms a large pool. Beavers build dams as many as four meters high and more than six hundred meters long.

They also build ditches. These are the shallow canals they dig leading out of the pool in all directions. They use the canals to float tree trunks and branches to the lodges they make. It is easier to float the tree trunks and branches than drag them along the ground in teeth and paws.

And finally the lodges. Beavers construct small houses out of branches on the islands that appear in the pool. To make them sturdy they smear them with mud and clay. Here in these lodges they sleep on a soft bed of leaves and in the winter they eat their meals, gnawing at branches brought in. The lodge is sometimes all of three meters high, and the entrance is underwater.

Beavers live in the forests of Siberia, Europe, and North America.

TERMITES

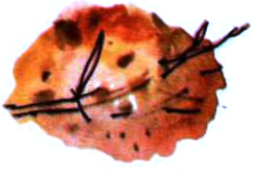
The lodges of the beavers are not the tallest structures in the animal kingdom. The seven-meter-high nest of the termites is so sturdy that even if an elephant climbs onto it, it will stand. It looks like a huge mushroom or a mound or an irregular column. Different species of termites make different homes. Inside there are arches, vaults, passages and large chambers. The termites raise funguses in the outer chambers and use the inner chambers for eggs and larvae. In the center there is a large chamber with especially thick walls. This is for the huge mother of all the termites, the queen termite, as scientists call it. The father or king of the termites also lives here, but the king is tiny alongside the queen.

The queen of some termites lays as many as thirty thousand eggs a day!

The population of a termite nest grows fast. To make room for it the termites keep adding new chambers to their nest.

Termites are sometimes called white ants, but this is wrong. They are relatives of the cockroach.

They live on the plains and in the forests of hot countries.



THE "SMITHY" FROG

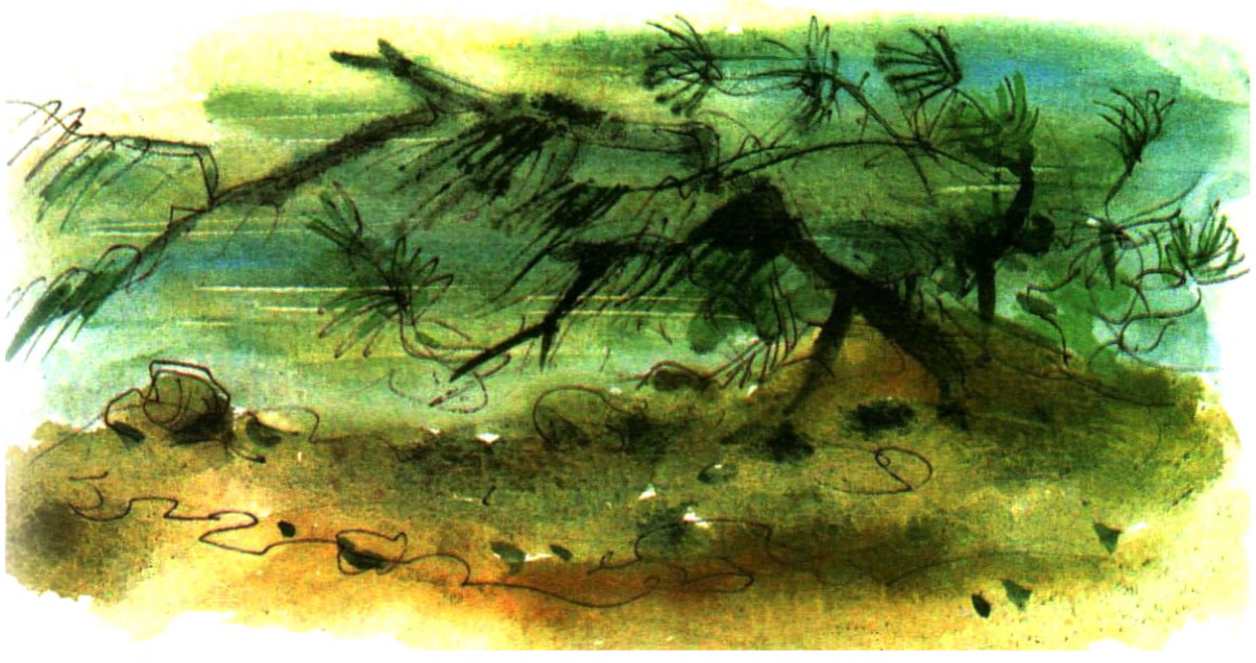
This is a kind of frog that lives in South America.

There it is called the "smithy" because the sound it makes reminds you of a hammer striking iron. You can hear this hammering all night long. The "smithies" are at work.

But this frog is not so much a blacksmith as a potter. On the bottom of a shallow stream it makes a deep pot out of clay. The pot is thirty centimeters across and ten centimeters deep. The goggle-eyed builder uses broad suckers on his toes in the way a bricklayer uses a trowel. He lifts mud and clay from the bottom of the stream with his head and shapes the round pot. Then he polishes the inside with chest and feet.

It takes the male frog two or three nights to finish his pot. Then he sits on the edge and calls to a female frog. She comes and lays her eggs inside.

Tadpoles appear in four or five days. Before they turn into frogs, they live here well-protected in the nest their father built.



THE OCTOPUS

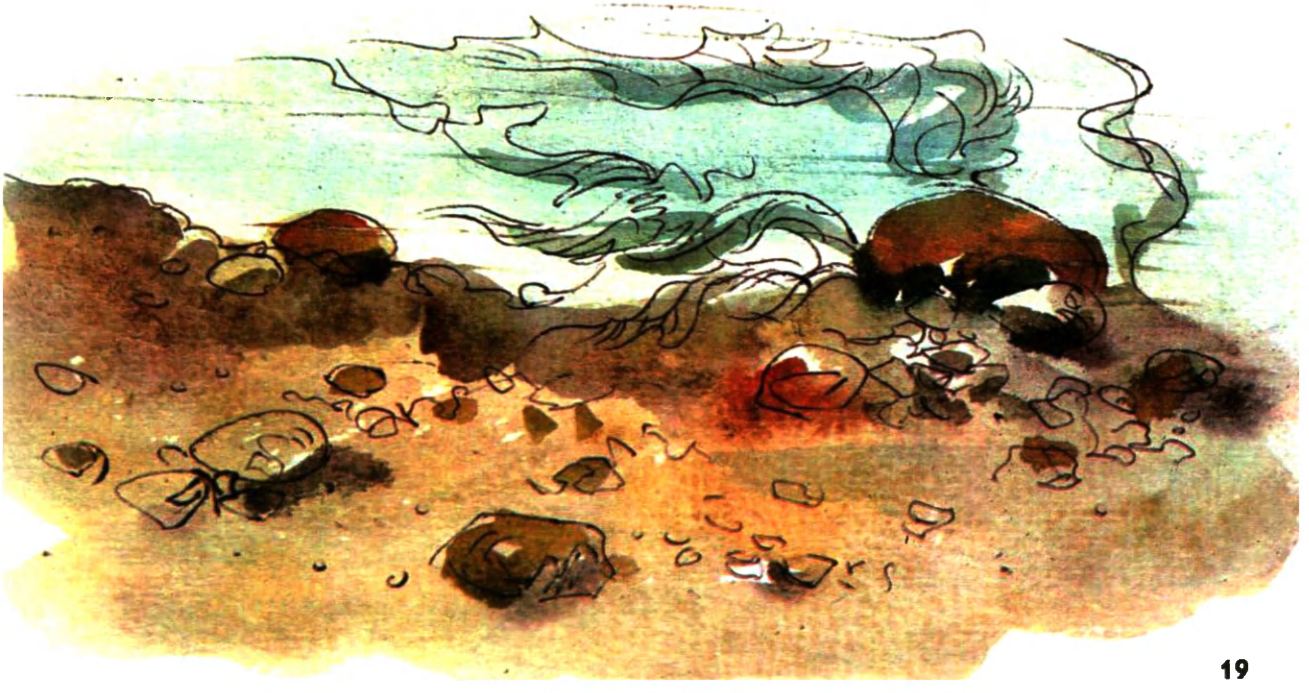
Our common snails have a very interesting relative in the sea, the octopus.

Where the bottom of the sea is stony, the octopuses hide under stones or in the crevices of rocks. But where it is muddy or sandy, they build homes. For this they drag together stones and shells and make a kind of den, where they cover themselves with a big stone. The soft-bodied octopus has nothing to fear from enemies in such a fortress.

To build these homes octopuses drag stones that weigh ten and even twenty times as much as they do. The stones are huge.

One little octopus weighing only one hundred grams pulled a stone to his building site that weighed two kilograms. And then he broke this record. Backing up, he pulled a stone that weighed three kilograms.

In places on the sea bottom that have especially attracted octopuses deep-sea divers have found whole communities of these stone houses.



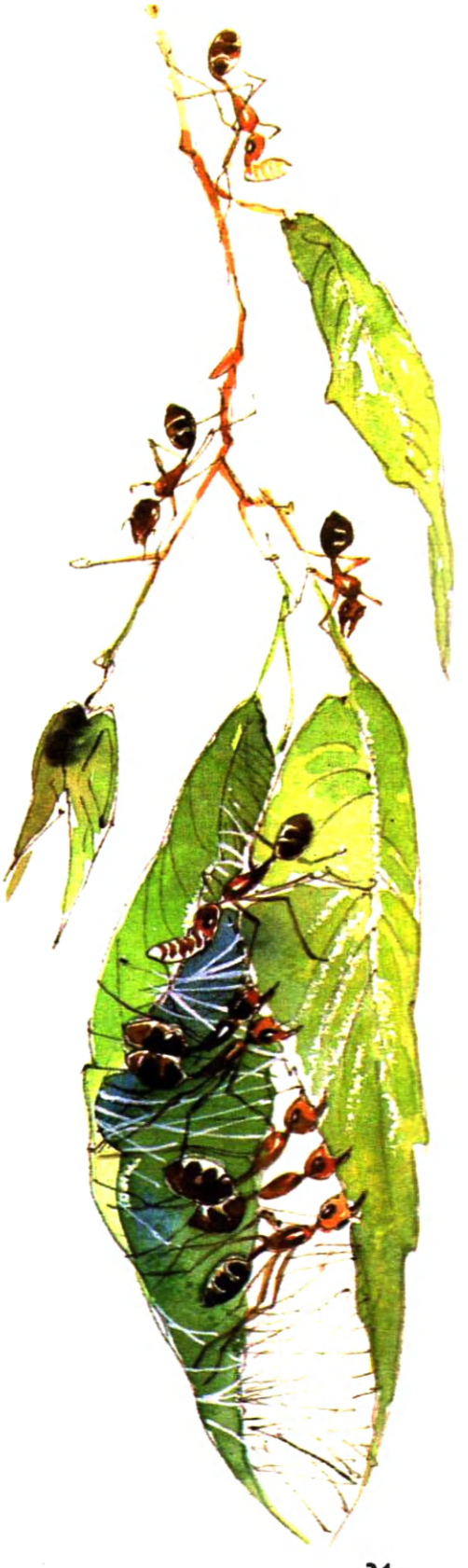
THE ECOPHILLA ANT

The ecophilla ant lives in India. The word "ecophilla" means "homes of leaves" in the Greek language. These ants build their homes of leaves. Not of dead, fallen leaves, but of fresh, green leaves, which they glue together with sticky silk thread right on the tree.

Where do they get the thread? Why, from their larvae!

If you disturb these ants, they rush to protect their home. They crowd around the damaged spot and begin to pound on the leaves. The sound reminds you of a rattlesnake. It is their only protection. Then a team of sappers comes out of the green house. They line up along the edge of the tear and, as though by command, reach across and seize the opposite side. Now they move back, pulling it, and bring the two edges together. At this point another team of ants comes running out of the house, each with a larva in its mouth. This is the gluing team. The gluers place the larvae head down on the edge of one leaf and then run across the tear to the other side and do the same. Out of the mouth of each larva comes a sticky thread.

Going back and forth in this way, the gluers quickly cover the tear with a strong silk web.



THE STICKLEBACK FISH

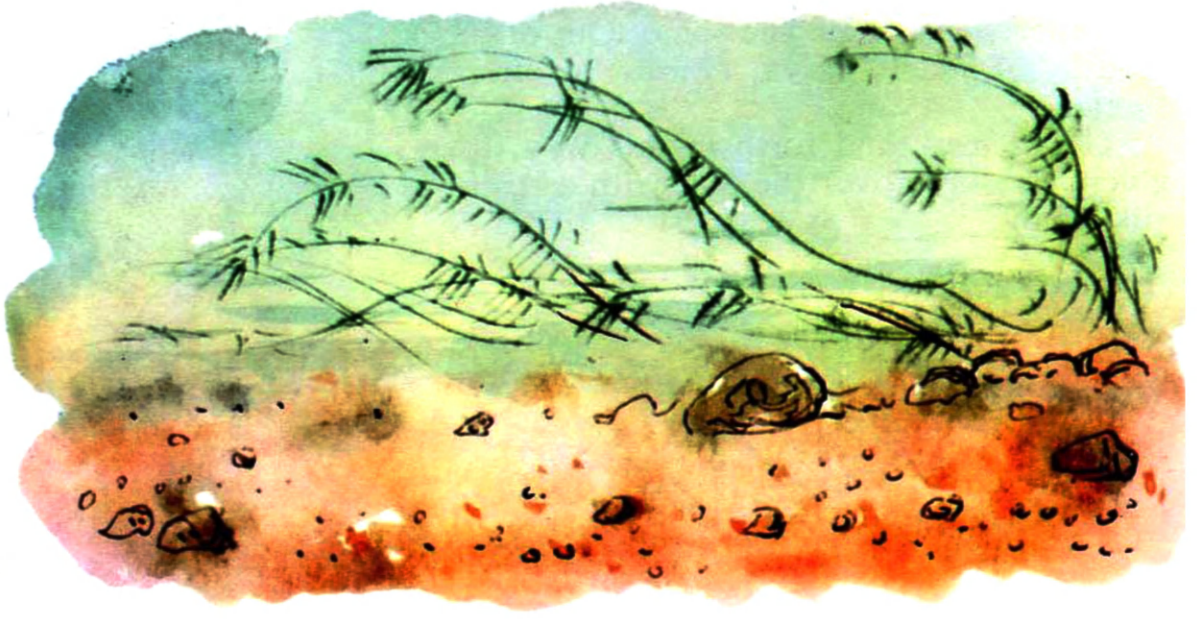
Usually this fish is only five or six centimeters long. The longest is only twelve centimeters. Its coloring is as gay as that of a rooster. The belly is red, the back a bluish green, and the eyes a bright aquamarine. This is how the male of the tiny fish looks in the spring.

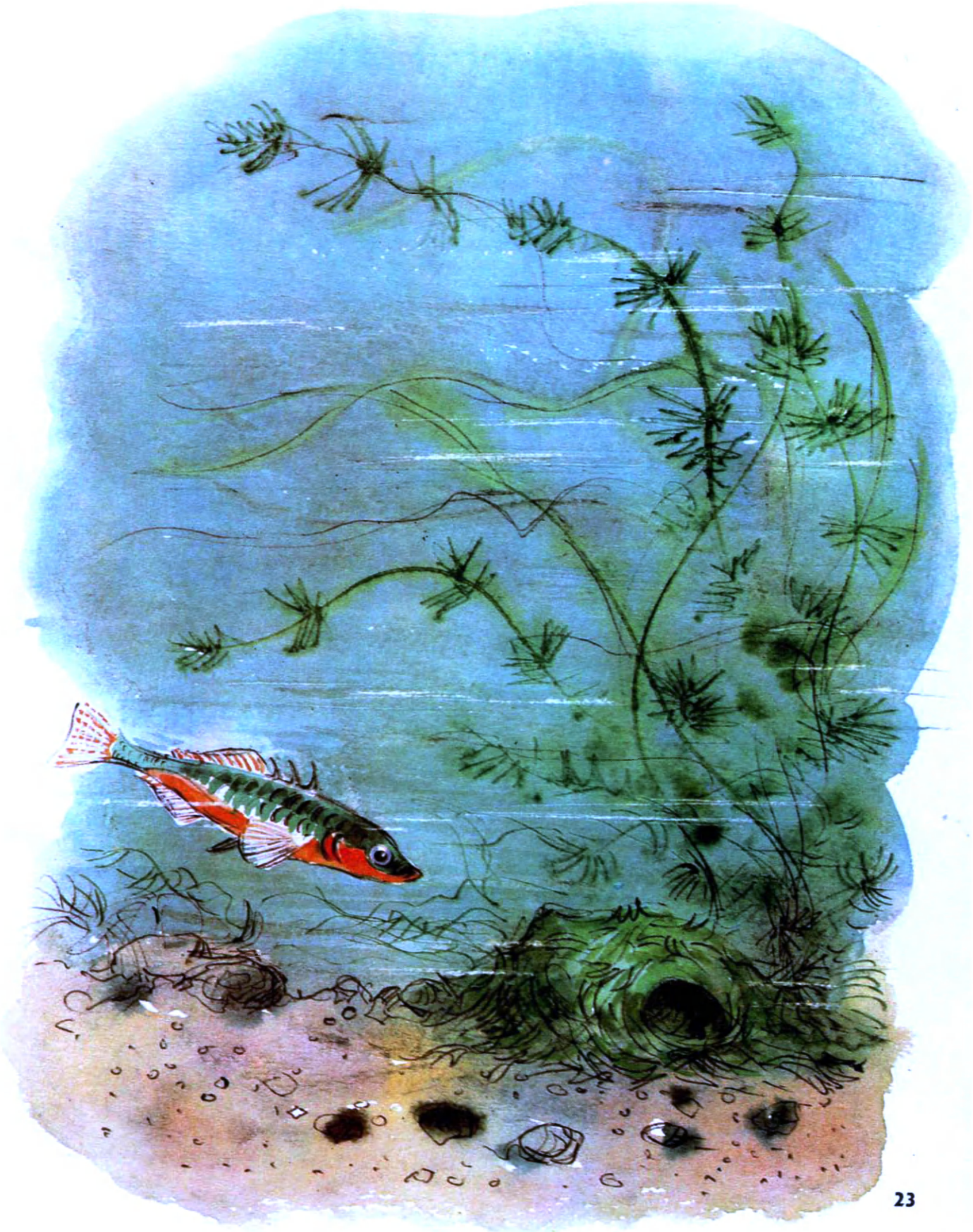
The male builds its home in the quiet, sandy shallows of a stream. Here a female stickleback lays some three hundred eggs and hatches her young. Then the loving father looks after them.

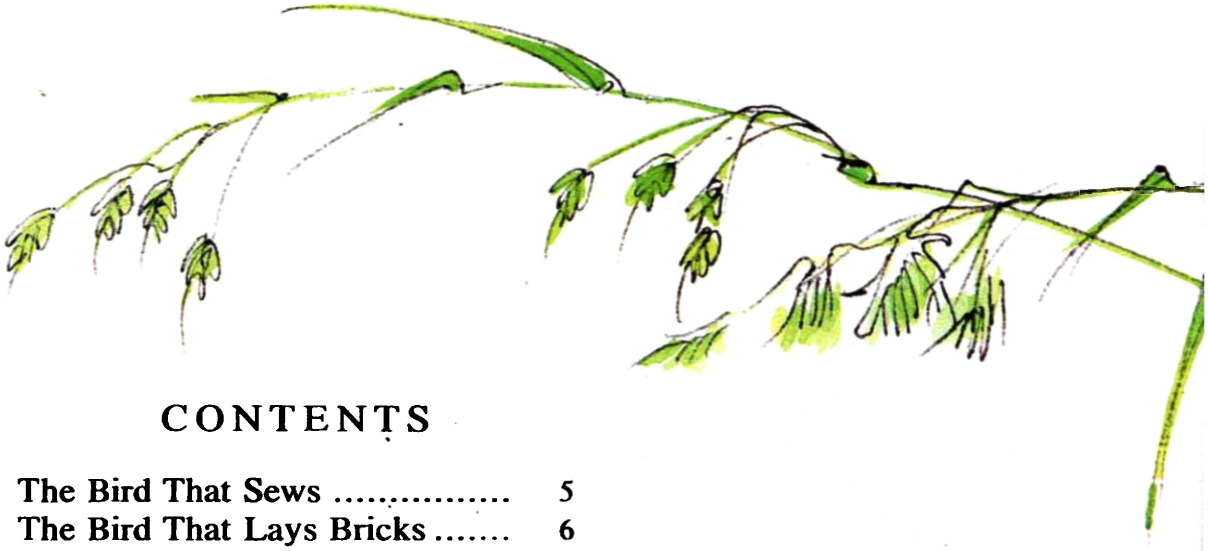
This is how the father digs a foundation for the home. He takes some sand in his mouth, carries it to one side and spits it out. Then he returns for more.

He does this again and again until there is a little hole on the bottom of the stream. Then in his mouth he brings up pieces of grass and other plants he finds in the water and puts them in the hole. He repeats this many times, each time pressing down the heap. Finally, he has a dense ball. Then he crawls through the middle, making a tunnel. Now the nest is ready. It is an empty ball with two openings, one opposite the other.

Scientists have been studying the unusual ways of the stickleback. Perhaps you will grow up to be a biologist and learn many interesting things about this fish.







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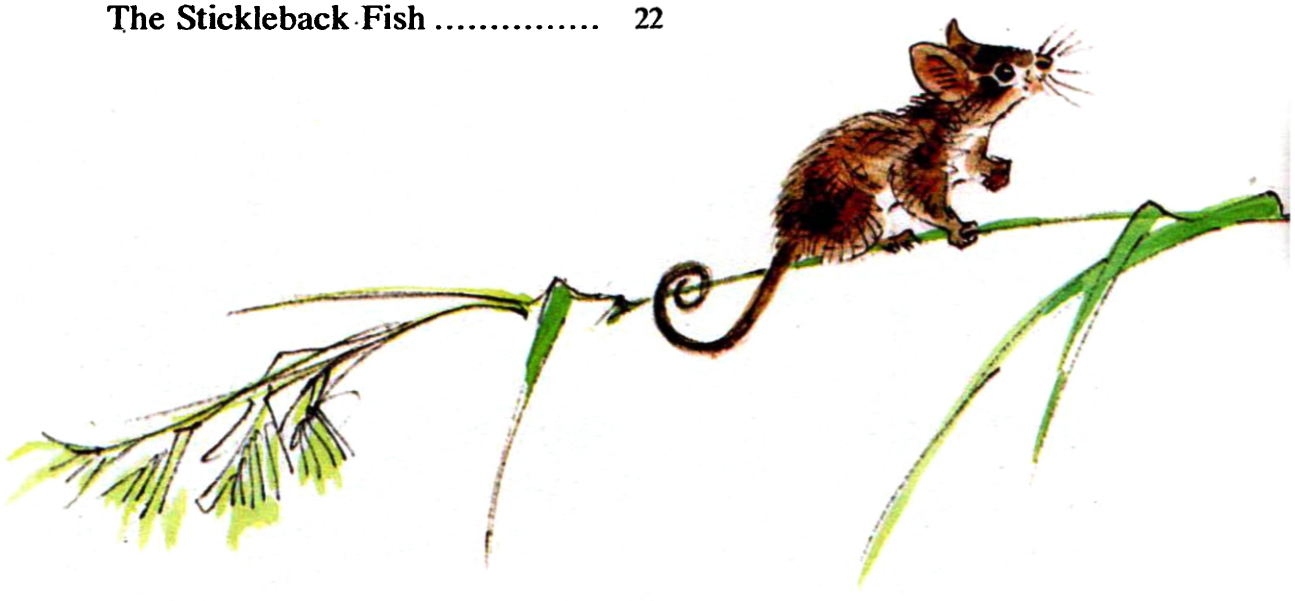

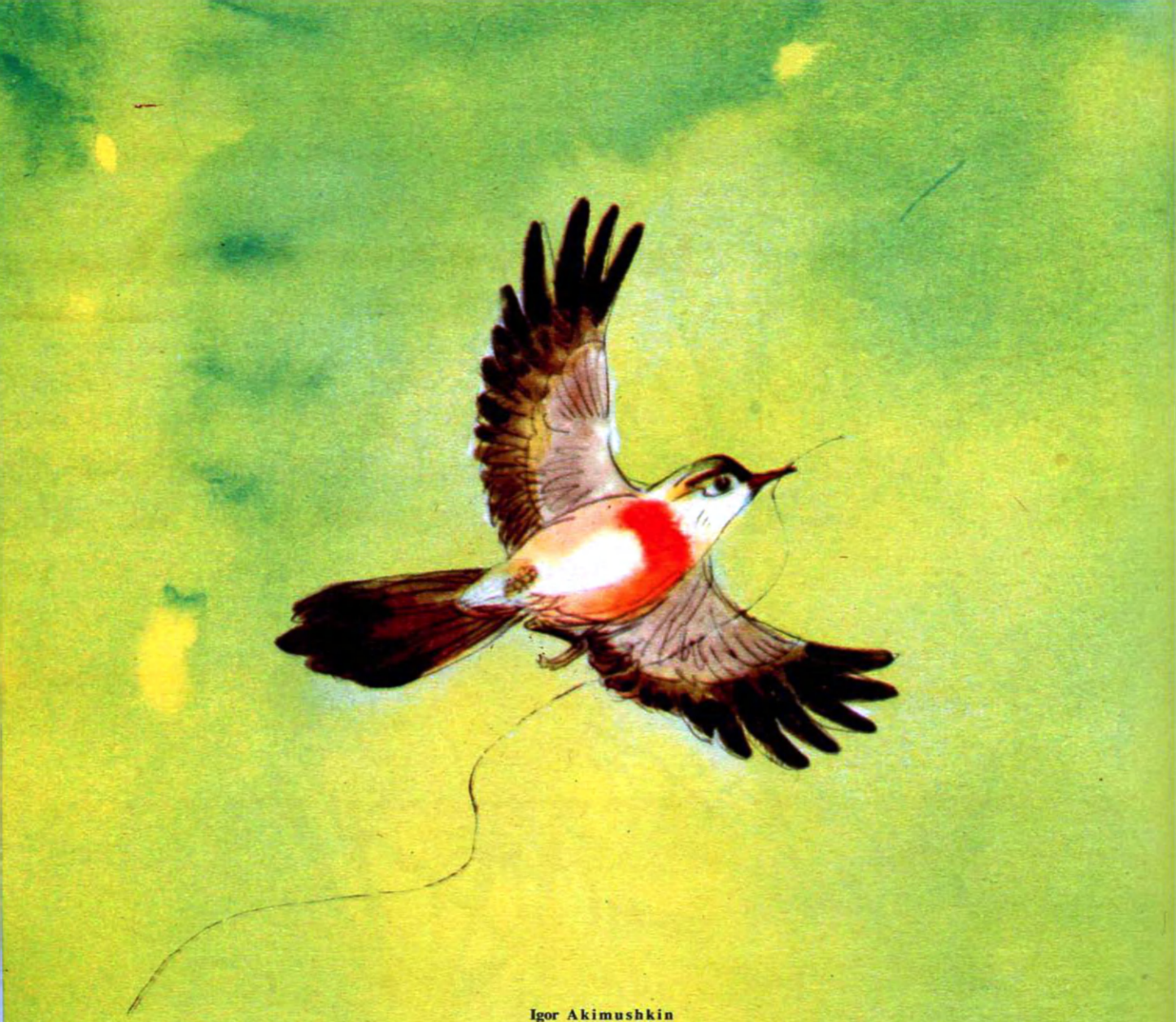

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